

SPONSORED RESEARCH LEADING
TO PRODUCTS, JOBS, AND IMPACTS
ON OHIO’S ECONOMY

Battelle’s 2004 analysis of the OARDC soybean program alone showed that **\$191 million was generated in Ohio economic output** and was the most significant mechanism for generating jobs. Moreover, a 2009 Battelle study states, “OARDC’s scientific research, innovation, and technology development is providing large-scale and widespread functional economic impacts across Ohio — both in terms of the generation of positive impacts (e.g., development of high-value crops, bio-based materials, and technologies) and significantly reducing negative impacts (e.g., crop losses or disease impacts).

EXAMPLES OF OARDC RESEARCH IMPACTS

- Generating a potential \$22 million savings in the Ohio horticulture industry from biocontrol fungicides versus chemical fungicides.
- Growing-media technology leading to the growth of the \$2.8 billion Ohio nursery industry, employing 96,000 personnel.
- Safeguarding poultry and egg production in Ohio via multiple technologies, securing an \$861 million Ohio industry that supports 8,700 jobs.
- Reducing Ohio’s exposure to \$65 million in negative impacts attributable to annual livestock disease losses.
- Protecting Ohio from \$9.3 million to \$46.6 million in foodborne illness health costs associated with Salmonella.
- Sustaining growth in Ohio’s \$11.1 billion food-processing sector via the development of new functional food products, advanced ingredients, and packaging technologies.

From Battelle review of OARDC programs, 2009.



BIOHIO: ATTRACTING PRIVATE INDUSTRY
AND CREATING JOBS

OARDC has actively pursued the development of the *BioHio Research Park* to be located on 90 acres of the Wooster, Ohio, campus. *BioHio* will be a primary economic development tool. It will encourage and accelerate commercialization of food and agriculturally related technologies, attract new and established companies, and promote strategic alliances. **BioHio will result in a “food and agricultural technology cluster” in northeast Ohio and will become a resource for the entire nation.**

- Renovation of Pounden Hall will provide business incubation space (30,000 sq. ft.), including office and laboratory facilities. The work has been supported with a \$744,000 federal EDA grant matched with OARDC funding, totaling \$1.49 million.
- A partnership with the city of Wooster resulted in a \$5.7 million capital project to provide access and state-of-the-art utilities to BioHio.
- Recruitment of companies has led to them locating on the Wooster campus and closely interacting with OARDC faculty. Examples are Schmack BioEnergy and Natural Fibers Composites Corporation.

The Ohio Agricultural Research and Development Center

IMPACT ON OHIO JOBS AND
SUPPORT FOR PRIVATE INDUSTRY



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03.09.09

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THE AGBIOSCIENCE SECTOR

The agbioscience sector is Ohio’s largest industry, producing an annual economic output of \$98.2 billion and accounting for almost 1 million Ohio jobs. Agbioscience is defined by many value chains, ranging from agricultural commodities to end products such as foods, fuels, fibers, polymers, pharmaceuticals, and many more. The *Ohio Bioscience Growth Report* (2007)¹ showed that Ohio’s agricultural biotechnology companies alone accounted for \$6.1 billion in economic output and employed more than 5,500 people.

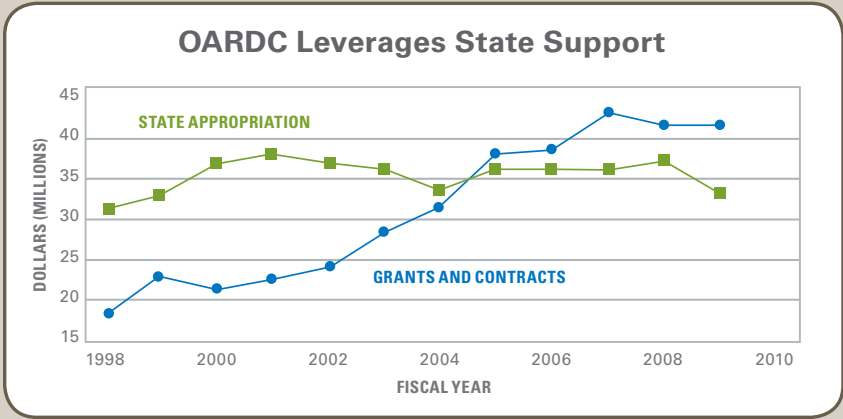


OARDC JOB CREATION AND SUPPORT FOR PRIVATE INDUSTRY

- **Institutional spending** results in faculty, staff, and students being employed to conduct research, educational, and outreach programs. These expenditures are multiplied, resulting in additional employment, output, and tax revenues.
- **Capital projects** on the Wooster campus and at outlying research stations support a labor pool outside of OARDC.
- OARDC contributes to **workforce development** by educating and training high school, undergraduate, and graduate students.
- OARDC faculty conduct sponsored research that leads to **new products and new businesses** that support employment and Ohio’s economy.
- OARDC is developing the **BioHio Research Park** to encourage public-private partnerships, house new and expanding agbioscience businesses, and form a nucleus for Ohio’s agbioscience technology cluster.

R&D SUPPORT FOR THE AGBIOSCIENCE SECTOR

Fueling innovation in Ohio’s agbioscience sector is Ohio State University’s Ohio Agricultural Research and Development Center (OARDC), one of the nation’s premier R&D institutions.² **OARDC is Ohio’s only higher education-related investment in the agbiosciences.** OARDC uses state support to maintain and build infrastructure that provides a solid base from which OARDC faculty leverage external funding from competitive grants, contracts, and federal awards. This funding totaled \$41.7 million in FY 2009.



¹ BioOhio. 2007. *Ohio Bioscience Growth Report*. <<http://www.bioohio.com/growthreport07.pdf>>
² Battelle Memorial Institute. 2003. *Ohio Agricultural Research and Development Center: A Generator of Positive Economic Impacts for Ohio*. <<http://www.oardc.ohio-state.edu/battelle-oardc-phase-1.pdf>>
³ Battelle Memorial Institute. 2009. OARDC 2004-2008. *Program Accomplishments and Future Growth Strategies*.
⁴ <<http://www.oardc.ohio-state.edu/orip/>>

IMPACTS OF OARDC’S INSTITUTIONAL SPENDING

The following statements have been taken from a 2009 Battelle Memorial Institute review of OARDC.³

As an operating entity, OARDC generates a significant economic impact in the state of Ohio. Battelle’s analysis of OARDC shows that FY 2008 expenditures in Ohio generated:

- **1,609 jobs in Ohio.**
- **\$5.5 million in annual tax revenues.**
- **\$59.2 million in personal income for Ohio residents.**
- **\$156.3 million in total Ohio economic output.**



LABOR POOL RESULTING FROM OARDC CAPITAL PROJECTS

Approximately \$420,000 in funding per biennium supports jobs in Ohio’s construction and related industries. OARDC building renovation and construction is supported by the state capital fund line, indirect cost recovery, and external dollars (grants, contracts, and federal support). For example, the current renovation of Pounden Hall is being funded by a federal Economic Development Administration (EDA) grant that requires a dollar-for-dollar match (50 percent EDA; 50 percent OARDC) totaling approximately \$1.5 million. For the last five years OARDC has averaged approximately \$7 million per biennium for capital projects. For most projects it is estimated that 60 percent of the costs are labor.

WORKFORCE DEVELOPMENT

DIRECT SUPPORT FOR PRIVATE INDUSTRY — OARDC makes its Wooster campus resources accessible to Ohio companies. This provides companies direct access to students who then gain experience with private-sector challenges and potential employment.

- **Natural Fiber Composites Corporation outgrew OARDC campus space, resulting in finding additional space in the city of Wooster, establishing a production facility, and hiring eight employees.**
- **OARDC recently recruited Schmack BioEnergy, LLC, to the Wooster campus. Schmack established a testing laboratory, hired an OSU graduate, and is working on collaborative research projects with OARDC faculty.**
- **OARDC has worked closely with over 100 companies during the past five years on sponsored research projects.**

GRADUATE STUDENTS — Over the past five years OARDC has supported an average of **182 graduate students annually**. Graduates have gone on to advanced degrees, university positions, business, teaching, and many other knowledge-based professions.

THE OARDC RESEARCH INTERNSHIP PROGRAM (ORIP)⁴ — In 2008, 35 students became Agbioscience Summer Scholars through the ORIP program. OARDC created a summer internship program that provides research experiences for high school juniors and seniors and college undergraduates. The goal of ORIP is to enhance Ohio student knowledge of science, technology, engineering, and mathematics (STEM) through laboratory and field-based research experiences, seminars, group discussions and symposia. Students also build a network of peers and scientists and gain experience that sets them apart from others for college applications and future career opportunities.